Claims

1. Method for communication in a radio communications system, comprising network-side devices (APS1, APS2, ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) and mobile stations (MS), in which a message (ADD) of a mobile station (MS) is received by network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E), subsequently a user data message (DATA) is transmitted via a plurality of network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) to the mobile station (MS), with the network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) which belong to the plurality of network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) depending on which network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) have received the message (ADD) of the mobile station (MS),
   characterized in that
   a signaling message (ADR), which requests the mobile station (MS) to transmit a response message (ADD) is transmitted via at least one network-side antenna (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) to the mobile station (MS), and the message (ADD) received on the network side is a response message (ADD) sent in response to the receipt of a signaling message (ADR).

2. Method in accordance with claim 1, characterized in that,
   the signaling message (ADR) is sent at regular first intervals.

3. Method in accordance with one of the claims 1 to 2, characterized in that,
   the signaling message (ADR) is transmitted before the transmission of the user data message (DATA) to the mobile station (MS) under the condition that a specific second

period of time has elapsed since the last transmission of a message of the same type as the signaling message (ADR).

4. Method in accordance with one of the claims 1 to 3, characterized in that, the signaling message (ADR) is transmitted via all network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) of one or more radio cells (FZ1, FZ2) of the radio communications system or via all network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) of the radio communications system.

5. Method in accordance with one of the claims 1 to 4, characterized in that, the plurality of network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) belong to same radio cell (FZ1, FZ2) of the radio communications system, or at least some of the network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) of the plurality of network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) belong to different radio cells (FZ1, FZ2) of the radio communications system.

6. Method in accordance with one of the claims 1 to 5, characterized in that, the signaling message (ADR) comprises identification information of the relevant radio cell (FZ1, FZ2), about the network-side antenna (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) or antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) via which it is transmitted, and the response message (ADD, ACK) comprises identification information of that radio cell or radio cells (FZ1, FZ2), from the network-side antenna or antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) from which the mobile station (MS) has received the signaling message (ADR).

7. Network-side device (APS1) in a radio communications system,
with means (RECEIVE) for receiving via network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) a message (ADD) of a mobile station (MS) or for receiving information about the receipt of a message (ADD) received via network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E), with the message (ADD) received on the network side being a response message (ADD) transmitted on receipt of at least one signaling message (ADR) received at a network-side antenna (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) to the mobile station (MS) which requests the mobile station (MS) to send a response message (ADD),
with means (INSTRUCT) for arranging that a user data message (DATA) is transmitted over a plurality of network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) to the mobile station (MS),
with means (DECIDE) for deciding whether network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) belong to the plurality of network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) depending on which network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) have received the message (ADD) of the mobile station (MS).

8. Computer program product for a network-side device (APS1) in a radio communications system,
with means for receiving information about the receipt of a message (ADD) received via network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) of a mobile station (MS), with the message (ADD) received on the network side being a response message (ADD) transmitted on receipt of at least one signaling message (ADR) received at a network-side antenna (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) to the mobile station (MS) which requests the mobile station (MS) to send

a response message (ADD),
with means for defining that a user data message (DATA) will be transmitted via a plurality of network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) to the mobile station (MS),
with means for deciding whether network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) belong to the plurality of network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E), depending on which network-side antennas (ANT-A, ANT-B, ANT-C, ANT-D, ANT-E) have received the message (MESSAGE; ADD, ACK) of the mobile station (MS).